(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 2 February 2006 (02.02.2006)

(10) International Publication Number WO 2006/011937

(51) International Patent Classification: G02B 1/06 (2006.01)

(21) International Application Number:

PCT/US2005/010948

(22) International Filing Date: 31 March 2005 (31.03.2005)

(25) Filing Language:

(26) Publication Language: English

(30) Priority Data:

60/558,293 31 March 2004 (31.03.2004)

(71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 5th floor, Oakland, CA 94607 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): [US/US]; 10866 Cloverhurst Way, San Diego, CA 92130 (US). ZHANG, Deying [CN/US]; 8795 Gilman Drive, #F, La Jolla, CA 92037 (US).

(74) Agent: PIENKOS, John, T.; Whyte Hirschboeck Dudek S.C., 555 East Wells Street, Suite 1900, Milwaukee, WI 53202 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT. AU. AZ. BA. BB. BG. BR. BW. BY. BZ. CA. CH. CN. CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

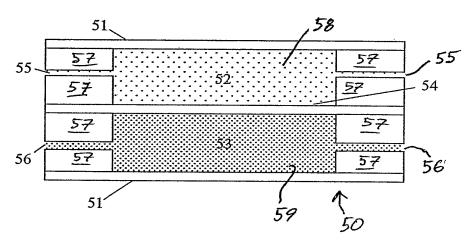
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 17 August 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FLUIDIC ADAPTIVE LENS



(57) Abstract: Fluidic adaptive lens devices, and systems employing such lens devices such as eyeglasses and zoom lens systems, along with methods of fabricating and operating such lens devices, are disclosed. In one embodiment, the fluidic lens device includes a first partition that is flexible and optically transparent and a second partition that is coupled to the first partition, where at least a portion of the second partition is optically transparent, and where a first cavity is formed in between the first partition and the second partition. The lens device further includes a first fluidic medium positioned within the cavity, the fluidic medium also being optically transparent, and a first component capable of controlling a parameter of the fluidic medium. When the parameter of the fluidic medium changes, the first partition flexes and an optical property of the lens is varied.